

A Longitudinal Study of Performance Practices in Recordings of Bach's Violin Sonata BWV1003

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Introduction

Performance practice in Bach is a controversial topic: the conflicting points of view of teachers, lecturers, and examiners represent a confused position. Whom does one believe? Is there only one correct interpretation—and if so, how do we judge the correctness, or otherwise, of our interpretation? The study of musical performance, and particularly of the recorded legacy, is an emerging field with important contributions from, among others, Robert Philip,¹ Timothy Day,² Daniel Leech-Wilkinson,³ Nicholas Cook,⁴ Bruce Haynes,⁵ Neal Peres da Costa,⁶ Eitan Ornoy,⁷ and Dorottya Fabian.⁸ The systematic analysis of recorded musical performances can be an invaluable tool in understanding changing musical tastes—in contextualising interpretative decisions and how they relate to broader aesthetic trends. The point of departure here is Bruce

¹ Robert Philip, *Early Recordings and Musical Style: Changing Tastes in Instrumental Performance 1900-1950* (Cambridge: Cambridge University Press, 1992); Philip, *Performing Music in the Age of Recording* (New Haven: Yale University Press, 2004).

² Timothy Day, *A Century of Recorded Music: Listening to Musical History* (New Haven: Yale University Press, 2000).

³ Daniel Leech-Wilkinson, "Recordings and Histories of Performance Style" in *The Cambridge Companion to Recorded Music*, eds Eric Clarke, Nicholas Cook, Daniel Leech-Wilkinson and John Rink (Cambridge: Cambridge University Press, 2009).

⁴ Nicholas Cook, "Methods for Analysing Recordings," in *The Cambridge Companion to Recorded Music*, eds Eric Clarke, Nicholas Cook, Daniel Leech-Wilkinson and John Rink (Cambridge: Cambridge University Press, 2009).

⁵ Bruce Haynes, *The End of Early Music: A Period Performer's History of Music* New York (Oxford University Press, 2007).

⁶ Neal Peres Da Costa, *Off the Record: Performing Practices in Romantic Piano Playing* (New York: Oxford University Press, 2012).

⁷ Eitan Ornoy, "Recording of J.S. Bach's G Minor Adagio for Solo Violin: A Case Study," *Journal of Music and Meaning* 6 (Spring 2008). See also the co-authored article with Fabian in footnote 8.

⁸ Dorottya Fabian, *Bach Performance Practice 1945-1975* (Aldershot: Ashgate, 2003); Dorottya Fabian, *A Musicology of Performance: Theory and Method Based on Bach's Solos for Violin* (Cambridge: Open Book Publishers, 2015); Dorottya Fabian and Eitan Ornoy, "Identity in Violin Playing on Records: Interpretation Profiles in Recordings of Solo Bach by Early Twentieth-Century Violinists," *Performance Practice Review* 14, no. 1 (2009); Dorottya Fabian, "Towards a Performance History of Bach's Sonatas and Partitas for Solo Violin: Preliminary Investigations," accessed 15 November, 2016, https://www.researchgate.net/publication/277715943_Fabian_D_2005. First published in *Essays in Honor of László Somfai: Studies in the Sources and the Interpretation of Music* (Lanham, Maryland: Scarecrow Press, 2005).

Haynes's book *The End of Early Music*,⁹ in which he categorises three distinct approaches to the performance of Baroque music in the twentieth century: romantic, modern, and period (or Historically-Informed Performance)—a conceptual framework that has been considerably influential. This study investigates Haynes's hypothesis by analysing fourteen different recordings of Bach's Solo Violin Sonata in A minor BWV1003, spread chronologically across the twentieth century

Haynes notes that "the main attributes of the romantic style are: portamento; extreme legato; lack of precision; tempos that are usually slower; lack of distinction between important and unimportant beats...; melody-based phrasing; exaggerated solemnity; concern for expression; controlled use of vibrato; agogic accents (emphatic lingering); [and] rubato."¹⁰ Comparing this to the modern style, Haynes states:

The most obvious attributes of the modern style are inherited from romantic style: the "seamless" legato, long-line phrasing, and a lack of beat hierarchy. But the modern style is mostly defined by the romantic traits that it suppresses. . . . It does not usually inflect or shape notes. . . .¹¹

Similarly, Haynes cites the modernist "obsession with precision,"¹² the ubiquitous application of vibrato,¹³ a studied metric regularity,¹⁴ a striving for absolute equality [of accentuation],¹⁵ "limited flexibility in tempo,"¹⁶ and the eschewing of overt expression, noting that "bringing tears to anyone's eyes is not a priority."¹⁷ He also reiterates Taruskin's point that Stravinsky was an influential advocate of this objective approach, one that emphasizes textual fidelity and relegates the role of the performer to a "selfless transmitter."¹⁸ Addressing the period style, on the other hand, Haynes notes:

The attributes of period style like phrasing by gesture, dynamic nuance, inflection (individual note-shaping), tempo rubato, agogic accents and note

⁹ Haynes, *The End of Early Music*. See also Sam Nester, "Modern Performance Trends in Bach's Sacred Music: Changing Tastes in the Performance of Bach's *Weihnachtsoratorium*, an Exploration of the Rhetorical Style" (honours thesis, Edith Cowan University, 2009), 2-8, http://ro.ecu.edu.au/theses_hons/1323/.

¹⁰ Haynes, *The End of Early Music*, 51.

¹¹ *Ibid.*, 57.

¹² *Ibid.*

¹³ *Ibid.*, 54.

¹⁴ *Ibid.*, 60.

¹⁵ *Ibid.*, 58.

¹⁶ *Ibid.*, 57.

¹⁷ *Ibid.*, 52.

¹⁸ *Ibid.*, 57.

placing, pauses, and beat hierarchy all tend to run counter to the predictable, the automatic, the machine-like regularity of modern style.¹⁹

Haynes's descriptions, ad hoc as they are, form the primary basis for this study.

The Parameters for Observation

The A minor violin sonata (BWV1003) by Johann Sebastian Bach (1685–1750) was chosen for the purposes of this chronological comparative study due to the availability of historic recordings, sourced from libraries and also from the personal collection of Dorottya Fabian, to whom we owe a debt of thanks for her generous assistance. The choice of recordings was also partly mitigated by what was available to the researchers within the time-frame of the project. Nevertheless, an attempt was made to choose a manageable selection of recordings of roughly even chronological spread, as shown in Table 1. All of these exist in the era of electrical recording (post 1925), and hence none is severely compromised in terms of sound quality.²⁰

Although Table 1 lists performances in chronological order of the date of recording, the dates (birth and death) of the performers are also noted. Leech-Wilkinson has argued that "on the whole most recorded musicians for whom we have a lifetime's output seem to have developed a personal style early in their career and to have stuck with it fairly closely for the rest of their lives."²¹ Eitan Ornoy makes similar claims, noting the significance of the time period in which a performer received his/her musical education.²² We could therefore note a few outliers, such as Menuhin, whose 1934–36 recording was made very early in his career (indicating that he belongs to a later generation), to some extent Sitkovetsky (for the same reason), and also the two later recordings by Szigeti. It is acknowledged that the inclusion of three recordings by Szigeti does slightly distort the data, but it also enabled investigation into the extent to which Leech-Wilkinson's hypothesis may be true—that performers' interpretative choices remain largely set throughout their career.

¹⁹ Ibid., 58. Haynes, *Ibid.*, 61-63 also discusses another sub-category, described as "strait style," which is a version of period style that is technically correct, but with no soul, "competent but boring, "restrained and temperate."

²⁰ Pre-1925, acoustic recording was used. This involved a horn (constructed of either stiff fabric or wood) that concentrated the vibrations of the sound down to the point of a needle, and the transfer of these vibrations onto a wax etching. Because of the limit in the frequency range, the sound was stripped of harmonics and overtones, resulting in a "dull" timbre. The earliest "electric" recordings (with the introduction of the microphone), were also somewhat compromised, with early microphones procuring a thin, somewhat metallic timbre. See Gordon Mumma et al, "Recording," in *The New Grove Dictionary of Jazz*, 2nd ed., ed. Barry Kernfeld (Oxford Music Online, <http://0-www.oxfordmusiconline.com.library.ecu.edu.au/subscriber/article/grove/music/J371600>).

²¹ Leech-Wilkinson, "Recordings and Histories of Performance Style," 250.

²² Ornoy, "Recording of J.S. Bach's G Minor Adagio for Solo Violin: A Case Study," 5.

Table 1. The selected recordings of Bach's Solo Violin Sonata in A minor, BWV 1003

Violinist	Dates	Recording Label and Catalogue No.	Recorded Date
Joseph Szigeti	1892–1973	Biddulph: LAB 153	1933
Yehudi Menuhin	1916–1999	EMI Reference (mono): CHS 763035 2	1934–36
George Enescu	1881–1955	Instituto Discografico Italiano: IDIS 328/29	1940
Joseph Szigeti	As above	Music and Arts: CD4774	1949
Yascha Heifetz	1901–1987	BMG Classics (RCA) 09026 61748-2	1952
Nathan Milstein	1904–1992	EMI ZDMB: 6479323	1955
Joseph Szigeti	As above	Vanguard Classics: ATM-CD-1246 Artemis Classics	1955
Henryk Szeryng	1918–1988	SONY (AAD mono): 01-046721-10	1965
Joseph Suk	1929–2011	EMI Classics Double fforte: 5 73644 2	1971
Dmitry Sitkovetsky	b.1954	C130852H Orfeo	1985
Itzhak Perlman	b. 1945	EMI Classics 7 49483 2	1986
Christiane Edinger	b. 1945	Naxos: 8.55057	1991
Lucy Van Dael	b. 1946	Naxos: 8.554423	1996
Rachel Podger	b. 1968	Channel Classics CCS 12198	1999

The analysis of musical recordings is an emerging field for which there is as yet no clear methodological consensus. For this study, a number of criteria were chosen in order to define the parameters of observation (Table 2)—an approach that has also been employed by Fabian in her recent book, *A Musicology of Performance*.²³ These criteria were chosen because they were judged to be the most significant based on readings of the secondary literature.²⁴ Table 3 offers a profile of our expectations for Haynes's three approaches, based on his somewhat ad hoc descriptions, correlating them with our chosen observation criteria. A question mark is indicative of instances where Haynes's comments shed little light.

The approach to observation was dependent on the personal judgements of the researcher as listener (a role completed by Adrian Yeo), so a degree of subjectivity was inevitable. Nevertheless, this study aspires to rigour in its approach to observation, creating a mix of both qualitative and quantitative data. Quantitative data is derived from personal judgments for the purposes of graphical display. The results of these

²³ Fabian, *A Musicology of Performance*.

²⁴ Including Leopold Auer, *Violin Playing as I Teach It* (Butler & Tanner, 1921); John Butt, *Bach Interpretation: Articulation Marks in Primary Sources of J.S. Bach* (Cambridge: Cambridge University Press, 1990); Dorottya Fabian, *Bach Performance Practice, 1945-1975: A Comprehensive Review of Sound Recordings and Literature* (Aldershot: Ashgate, 2003); Eitan Ornoy, "Recording of J.S. Bach's G Minor Adagio for Solo Violin: A Case Study," *Journal of Music and Meaning* 6 (Spring 2008); Philip, *Early Recordings and Musical Style*.

observations form the core of this paper, and are presented point by point. At the conclusion, the validity of Haynes's conceptual model will be discussed.

Table 2. The observation criteria

1. Tempo
 - a. What is the metronome mark by movement?
2. Tempo flexibility
 - a. What kind(s) of tempo fluctuations are used?
 - b. How often do they occur?
3. Accentuation
 - a. To what degree does the performance emphasise the metrical hierarchy (accented strong beats)?
 - b. What part of the chord does the performance emphasise and whereabouts on the beat? (i.e. is it always the top note and is it always played on the beat?)
 - c. How do the performers play the chords? (i.e. rolled or as double-stops)
4. Articulation
 - a. Does the performance articulate small motives or longer phrases?
 - b. Is the performance varied or uniform (e.g. all legato) in its approach to articulation?
 - c. What sorts of articulations are used?
5. Use of portamento
 - a. To what degree is portamento used?
 - b. How and when is portamento used?
6. Vibrato
 - a. What sort of vibrato is used? (in terms of width and speed)
 - b. How frequent is the vibrato used?
7. Ornamentation
 - a. Is additional ornamentation employed?
 - b. What sort of ornamentation is used?
 - c. Does the performance reflect an understanding of the improvisational nature of the much notated music?

Table 3. A profile of expectations across Hayne's three schools (where R=Romantic, M=Modern, P=Period), by criteria

	TEMPO	TEMPO FLEXIBILITY	RHYTHMIC ALTERATIONS	ACCENTUATION	ARTICULATION	PORTAMENTO	VIBRATO	ORNAMENTATION
R	Slower than usual	Much rubato	Emphatic lingering	Lack of beat hierarchy	The long-line phrase	Common	Controlled use	?
M	Not as slow	Unyielding tempos	None	Lack of beat hierarchy	"Seamless legato"	Rare	Continuous and aggressive	Emphasis on textual fidelity
P	?	Some rubato	Agogics or notes inégales possible	Follows beat hierarchy	Brings out the smaller motifs	Presumed rare	Controversial	Added ornamentation

Tempo

Figure 1 records the various tempi in a line-graph format in order to make a convenient visual comparison across the fourteen recordings. Tempo was measured using a stopwatch in a similar approach to that used by Eitan Ornoy,²⁵ charting the average over three separate time-trials. For ease of data display, the *Grave* and *Andante* were taken to have a quaver beat, whereas the tempi of the *Fuga* and the *Allegro* were considered as having a crotchet beat.

Whilst a wide range of tempi is exhibited, it is difficult to ascertain any clear chronological pattern. Donnington, whose views represent a late-twentieth century expression of the period (or HIP) approach, suggests that most baroque slow movements need to be played faster, and that most fast movements need to be played slower than expected (thereby achieving less extremes of tempo).²⁶ This is, to some extent, true of the chronologically later recordings. Edinger (curiously) is an outlier, being the slowest in every movement. Apart from these, no clear trends emerge. This is consistent with the findings of Fabian in 2005, who reports no significant chronological trend in tempo, reporting that "performance tempo has not changed as radically as other aspects of

²⁵ The tempo at the beginning of the movement (comprising two bars) was calibrated three times to the hundredth-of-a-second in order to derive a mean estimate of the tempo. The tempo of the crotchet beat was then calculated by dividing the number of beats in the timed segment by the average time of the played fragments. See Ornoy, "Recording of J.S. Bach's G Minor Adagio for Solo Violin," 10.

²⁶ Robert Donnington, *The Interpretation of Early Music*, revised ed. (New York: W.W. Norton & Co., 1992), 387.

interpretative vocabulary."²⁷ In a later study (2009), Ornoy and Fabian also table a detailed account of tempo differences (quantitatively compared by standard deviation) across nine different recordings of the A minor sonata, of which seven were included in this study. Again, no significant patterns emerged.²⁸

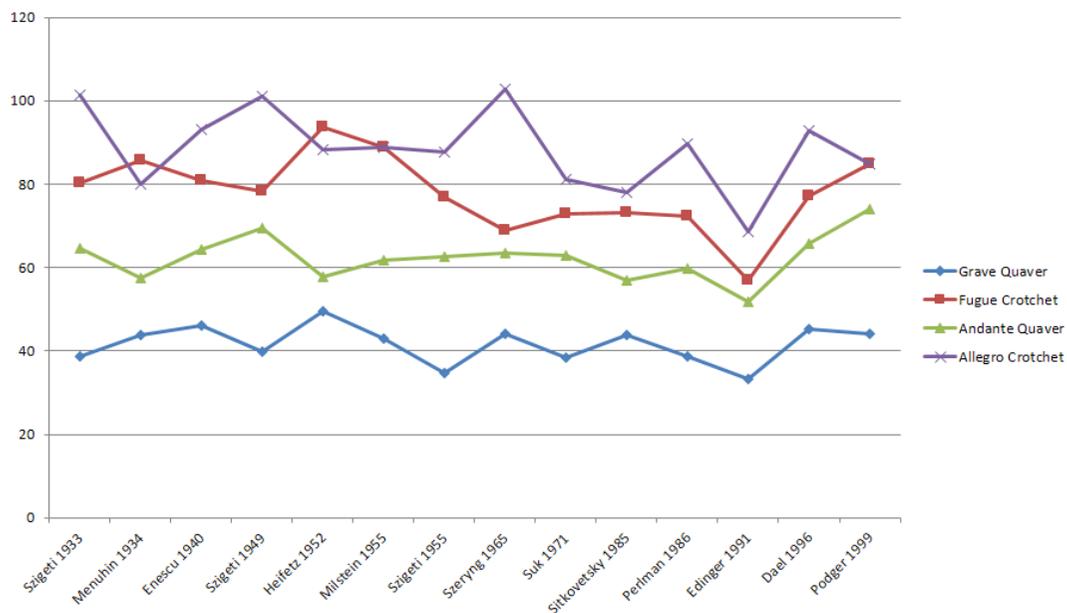


Figure 1. Tempi

Tempo Flexibility

Figure 2a presents the various types of tempo flexibility across all movements of BWV1003 and distinguishes between: (a) many fluctuations, by phrase; (b) a flexible melody over a strict bass, and (c) few fluctuations. Figure 2b charts the degree of ritardando employed at cadences, represented on a numerical scale.

²⁷ Fabian, "Towards a Performance History of Bach's Sonatas and Partitas for Solo Violin," 21.

²⁸ Fabian and Ornoy, "Identity in Violin Playing on Records," 25.

recordings by Milstein (1955), Szeryng (1965), Suk (1971) and Perlman (1986), were sparing in their use of tempo fluctuation in the *Grave*, but employed a liberal amount of retardation at cadences. Overall, their sparing use of tempo fluctuation reflects Haynes's modern school, but the retardation at cadences points appears to be somewhat of an exception to the rule.

It could be noted that both Menuhin (1934) and Heifetz (1952) preserve a comparatively straight approach in both their use of tempo flexibility and their minimal use of ritardando at cadences, and are thus also indicative of Haynes's modern category. In the case of Menuhin, it needs to be borne in mind that (despite his early position in the graphs) he belongs to a subsequent generation, an observation supported by the data presented here, which places him unequivocally in the modern camp.

On the other hand, late twentieth-century violinists Van Dael (1996) and Podger (1999) also have quite a liberal approach to rubato, although this is anchored by a regularity of the bass that makes their approach qualitatively different from the earliest recordings (such as Sziget, 1933, and Enescu, 1940). Another point of difference is their minimal use of ritardando at cadences. In terms of the more restrained use of ritardando at cadences, Edinger also falls into the "occasionally only" category, as with Van Dael and Podger. But his recording is different in that his *Grave* is less free in its use of rubato, as if he is unable to shake off modernist tendencies.

Accentuation

Figure 3 shows a series of systematic observations regarding: (i) arpeggiation; (ii) the placement of the melody or the bass on the beat; and (iii) the accentuation of metric hierarchy. A number of interesting trends can be observed:

1. The ubiquity of the double-stopped arpeggiation (second last row) is quite noticeable up until the mid 1990s. Although there are multiple ways of arpeggiating a chord in the Baroque style,²⁹ there is no historical evidence for this "bottom two—top two" execution.
2. Recordings in the mid-twentieth century displayed little or no emphasis on metric hierarchies, reflecting a modernist orientation.
3. While performances recorded in the early half of the century tend to place the melody on the beat, there was in the mid-century a gradual shift towards putting the bass on the beat, and expressively delaying the top line.

²⁹ Anthony Burton, *A Performer's Guide to Music of the Baroque Period* (London: The Associated Board of the Royal Schools of Music (Publishing) Limited, 2002), 78.

	Szigeti 1933	Menuhin 1934	Enescu 1940	Szigeti 1949	Heifetz 1952	Milstein 1955	Szigeti 1955	Szeryng 1965	Suk 1971	Sitkovetsky 1985	Perلمان 1986	Edinger 1991	Van Dael 1996	Podger 1999
	Grave Fuga Andante Allegro	Grave Fuga Andante	Grave Fuga Andante Allegro											
Plays chord bass to treble	• • •	• • •	• • •	• • •	• • •	• • •	• • •	• • •	• • •	• • •	• • •	• • •	• • •	• • •
Plays chord treble to bass					•			•	•			•		
Every note has equal weight						• • •		• • •	• • •	• • •	• • •	• • •	• • •	• • •
Follows the metrical structure	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •
Bass on the beat						•		•	• •	• •	• •	•	• •	• •
Melody on the beat	• •	• •	• •	• •	• •	•	• •	•				•		
Double- stops the chords (broken)	• •	• •	• •	• •	• •	• •	• •	• •	• •	• •	• •	• •		
Arpeggiates the chords													• •	• •

Figure 3. Accentuation

Articulation

Figure 4 tabulates the results of observing whether articulation was applied at the level of the motive, short phrase, or longer phrase, or whether a seamless legato was achieved. Across the first half of the twentieth century, all performers articulated longer phrases rather than smaller motifs, conforming to the expectations of the romantic style.

	Szigeti 1933	Menuhin 1934	Enescu 1940	Szigeti 1949	Heifetz 1952	Milstein 1955	Szigeti 1955	Szeryng 1965	Suk 1971	Sitkovetsky 1985	Perلمان 1986	Edinger 1991	Van Dael 1996	Podger 1999
	Grave Fuga Andante Allegro	Grave Fuga Andante	Grave Fuga Andante Allegro											
Articulates smaller motives						•							• • • • • • • •	
Seamless Legato						• • •		• • •	• • •	• • •	• • •	• • •		
Articulates longer phrases	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	•				• • • •		

Figure 4. Articulation

The graph appears to show a shift in Milstein's 1955 recording towards a seamless legato (of even larger spans), which remained the trend for the mid-twentieth

century recordings and reflects modernist characteristics. Milstein's *Fuga* is an outlier, concentrating on smaller motives. The prevailing seamless legato lasted until Edinger (1991), who (in somewhat of a throwback to a romantic approach) shows the articulation of longer phrase groups, which are thus not completely seamless. The last two listed recordings of Van Dael (1996) and Podger (1999) are characteristic of HIP, where the articulation of smaller motives is typical.

In hindsight, the attempt to differentiate between the articulation of long phrases (the long line) and a *completely* seamless legato is a problematic distinction that is fraught with subjectivities. It is suggested that the earlier performances employed dynamic shaping more markedly in the service of phrase shaping, whereas mid-century recordings tended to exhibit greater dynamic equality throughout the phrase. On the other hand, Ornoy and Fabian have illustrated a detailed analysis of the dynamic nuances in Heifetz's and Milstein's recordings of the *Andante*, and have demonstrated how much expressive subtlety there is, even in a purportedly modernist approach like that of Milstein.³⁰

Portamento

Figure 5 shows the total amount of portamento observed, using a numerical scale (as shown in the legend, quantified by subjective judgment). Through these results, one can see that from Szeryng's recording in 1965 onwards, many of the performers chose to use little or no portamento, thereby displaying a modernist influence. In early twentieth-century recordings such as Szigeti and Heifetz (in particular), the use of portamento is more widespread, indicating a more romantic influence. On the other hand, the performances of Van Dael and Podger also use almost no portamento, which is characteristic of both the modernist and HIP profiles.

Haynes claimed that the modernist school led to the sudden demise of portamento in the 1930s. However, these results (at least at first glance) indicate that portamento did not disappear quite so quickly. In this area, the influence of the romantic school continued to be felt well throughout the century.

It should be remembered that there are three different Szigeti recordings included in this project (1933, 1949, and 1955). Clearly, Szigeti's use of portamento did not evolve significantly over time; rather, he retained the more liberal use of portamento indicative of an earlier era. It should also be noted that Heifetz's recording of 1952 occurred towards the latter half of his career (when he was already fifty one). As Philip

³⁰ Fabian and Ornoy, "Identity in Violin Playing on Records," 11.

and Ornoy suggest, the dates of the formative experiences of a musician are arguably a more significant predictor of their style than the actual date of the recording.³¹

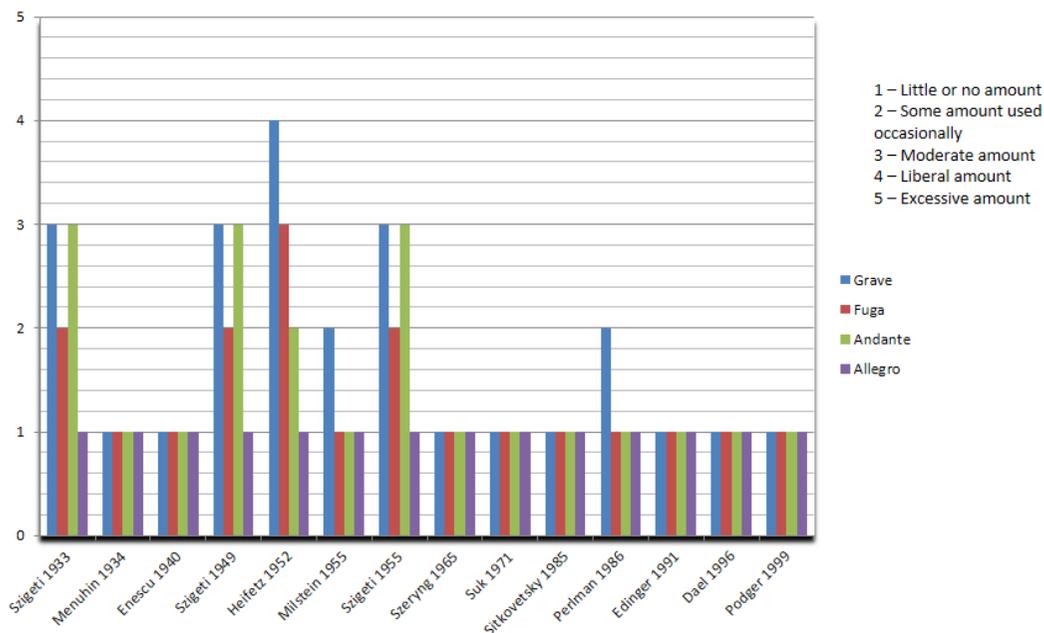


Figure 5. Portamento

Vibrato

Haynes suggests that for the modernist style, vibrato becomes somewhat of an addiction, labeling it "the MSG of music." He notes that "in modern style, vibrato is an integrated element of tone quality, used continuously and aggressively, resulting in a constant feeling of activity and nervousness."³² Similarly, Katz suggests that "continuous vibrato be understood as a response to the exigencies of sound recording"—in other words to compensate for perceived tonal deficiencies of recorded sound, and to "obscure imperfect intonation."³³ Similarly, the early romantic style has been linked to a more restrained use of vibrato.³⁴

³¹ Leech-Wilkinson, "Recordings and Histories of Performance Style," 250; Ornoy, "Recording of J.S. Bach's G Minor Adagio for Solo Violin: A Case Study," 5.

³² Haynes, *The End of Early Music*, 54.

³³ Mark Katz, "Aesthetics out of Exigency: Violin Vibrato and the Phonograph," in *Music and Technology in the Twentieth Century*, ed. Hans-Joachim Braun (Baltimore: The Johns Hopkins University Press, 2000), 179. Cited in Fabian, "Towards a Performance History of Bach's Sonatas and Partitas for Solo Violin," 7.

³⁴ See Haynes, *The End of Early Music*, 52 where reference is made to the "controlled use of vibrato" in the romantic style. Likewise, Philip notes that "the other striking feature of early twentieth-century string playing is its sparing and shallow vibrato." See Robert Philip, "The Recordings of Edward Elgar (1857–

Figure 6 presents the use of vibrato in just the *Grave* and *Andante* movements, where differences were most easily observed. What can be said is that mid-century performers such as Heifetz (1952), Milstein (1955), Suk (1971), and Perlman (1986) do demonstrate a point of difference from the early recordings in their use of a faster vibrato. Only Heifetz (1952), Milstein (1955), and Perlman (1986) are classified as using a "continuous" vibrato. But, in hindsight, the adoption of distinct categories such as whether vibrato is used "continuously" or to "decorate" was problematic. It was often difficult to categorize performers as possessing one characteristic or another, as their use of vibrato can adjust subtly throughout the recording. There is clearly a spectrum of practice, and there was often a fine line between these categories. What is striking is the degree of restraint evident, even in mid-century recordings, with the vast majority of recordings using a "moderate vibrato" and one that is as much decorative (or selective) rather than completely continuous. Hence, for this criterion, the differences between mid-century players, and those of the preceding generation, are slight—which is somewhat contrary to the observations, by Haynes and others, that vibrato grew markedly mid-century.

	Szigeti 1933		Menuhin 1934		Enescu 1940		Szigeti 1949		Heifetz 1952		Milstein 1955		Szigeti 1955		Szeryng 1965		Suk 1971		Sitkovetsky 1985		Perlman 1986		Edinger 1991		Van Dael 1996		Podger 1999		
	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	Grave	Andante	
Slow Vibrato																													
Moderate Vibrato	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Fast Vibrato									•		•						•				•	•							
Used continuously									•		•										•								
Used to decorate	•	•	•	•	•	•	•	•	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	

Figure 6. Vibrato

On the other hand, there was a more distinct break between the modern and period group here: between the approach of Perlman (1986), and the three latest recordings (Edinger, Van Dael, and Podger), which showed a more moderate and restrained use of vibrato. While Van Dael's use of vibrato was comparatively sparse, her tone was expressively nuanced in other ways, such as in the use of inflections of the bow. Podger, on the other hand, used almost no vibrato at all, indicative of a hard-line

1934): Authenticity and Performance Practice," *Early Music* 12, no. 4 (1984): 483. See also Philip, *Early Recordings and Musical Style*, 97.

approach typical of the 1980s and 1990s, where HIP exponents played with a predominantly straight tone, and treated vibrato as a selective ornamental device.³⁵ Having said this, Podger's sound is far from being wooden or cold, as the resonance of her instrument and the beauty of her phrasing are plainly evident (bowing, of course, has a lot to do with this).

Ornamentation

Figure 7 illustrates the tabulated observations of ornamentation for the *Grave* and *Fuga*. Observations of ornamentation were focused on three principal questions: is additional ornamentation added, how are trills executed, and does the execution of small rhythmic values reflect an improvisational quality? Note that we are not speaking about an improvisational quality in the movement more generally, but only whether trills are executed with an air of freedom, or delivered mechanically (with equal strength and weight).

	Szigeti 1933		Menuhin 1934		Enescu 1940		Szigeti 1949		Heifetz 1952		Milstein 1955		Szigeti 1955		Szeryng 1965		Suk 1971		Sitkovetsky 1985		Perlman 1986		Edinger 1991		Van Dael 1996		Podger 1999	
	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga	Grave	Fuga
Adds no additional ornamentation					•				•	•					•	•												
Adds additional ornamentation	•	•	•	•		•	•	•			•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•
Trills starting on the upper note																	B	B	B	O	B	B	O	O	O	O	O	O
Trills starting on the principal note	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•												
Reflects improvisational nature	•	•	•	•	•	•	•	•	•	•		•	•	•	•								•	•	•	•	•	•

Figure 7. Ornamentation (where B=before the beat and O=on the beat)

Results for this criterion were quite telling, clearly demonstrating three schools of performance practice. Trills performed starting on the upper note and on the beat (as suggested by Dolmetsch) are seen in Edinger, Van Dael, and Podger, and are obviously a defining facet of the historically-informed school. Suk, Sitkovetsky, and Perlman all execute trills beginning on the upper note but starting before the beat (modernist?), while all the earlier recordings performed trills starting on the principal note. Suk,

³⁵ This attitude towards vibrato has somewhat softened, but the debates continue. See, for example, Judith Malafrente, "Vibrato Wars," *Early Music America* 21, no. 2 (Summer 2015): 30-34.

Sitkovetsky, and Perlman also exhibit a certain modernist heaviness and equality of tone, detracting from the improvisational air of small rhythmic values.

Conclusion

Table 4 summarizes the trends observed across all seven criteria, noting the evidence for and against Haynes's hypothesis. Overall, a moderate correlation with the hypothesis was observed, with some significant exceptions in evidence. While a certain number of exceptions in terms of individual performers is to be expected, observed trends that do not conform neatly to Hayne's tripartite division are of particular interest.

Table 4: Summary of Trends

	Evidence For	Evidence Against	Other
Tempo		Little or no clear trends emerge.	
Tempo flexibility	Strong evidence for a mid-century modernist group.	Mid-century violinists still use considerable ritardando at cadences.	
Accentuation	Mid twentieth-century recordings equalize notes.		The double-stopped arpeggiation persists until the mid 1990s; Early twentieth-century recordings place the melody on the beat, shifting mid-century towards placing the bass on the beat.
Articulation	All early twentieth-century violinists articulate longer phrases; Mid-century there is a slight shift towards seamless legato; Articulation of small motives is seen in the latest two violinists.		
Portamento	Portamento was common in the early twentieth-century and phased out.	Its demise was more gradual than Haynes claims, although the late recordings of Szigeti and one by Heifetz might be anomalous.	
Vibrato		The marked increase in the scale of vibrato use mid-century was not strongly observed.	
Ornamentation	Clear changes in approach to ornamentation across the twentieth century.		

In particular, it is interesting to note that the demise of portamento appears to be more gradual here than anticipated from Haynes's claims. However, the late performances of Szigeti and Heifetz suggest that their formative experiences were from an earlier era. Of similar interest is that the great majority of the recordings were moderate in their application of vibrato; the anticipated marked increase in the scale and intensity of vibrato (according to Haynes's claims) was not strongly observed. Likewise, Haynes's generalisation that the romantic style should exhibit slower tempos was also not evident. The sparing use of rubato by early violinists is intriguing, but at present it is not possible to ascertain if this was a general feature of interpretation or one employed principally in the interpretation of Bach's music. Of some interest is the way that most of the mid-century recordings present evidence of the continued liberal application of ritardando at cadence points, suggesting that this is an exception to the general rule of limited tempo flexibility in the modern style.

The evidence presented confirms that playing styles do not change overnight: rather, they constantly, and subtly, change over time.³⁶ These observations suggest that we should use caution in applying specific dates to periods of change (as Haynes has also noted).³⁷

Haynes's hypothesis of three principal approaches is a useful generalisation, notwithstanding the fact that further complexities are sure to be revealed as research in this area unfolds. Of particular note here is Fabian's most recent study, *A Musicology of Performance*,³⁸ which suggests that in the present era there is a diversification and re-integration of stylistic trends, with the mainstream (modern) and HIP styles mixing and blending—particularly among younger generations of players. She questions the limitations inherent in attempts to classify players according to over-generalised categories ("putting them in a box," so to speak), and suggests alternative models of accounting for complexity (referencing Deleuze's "philosophy of difference")³⁹ that borrow from mathematical theory to propose musical performance as a complex dynamical system.⁴⁰

Ultimately, this study highlights the subjectivity and complexity of analysing musical performance. One of the potential pitfalls is the temptation to fall back on modernist rhetoric, and to assume an evolutionary model of development from naive to better-informed. The fact that older recordings can still entertain, charm, and thrill us, reveals that music is a complex endeavour that fiercely resists classification.

³⁶ Philip, *Early Recordings and Musical Style*, 49.

³⁷ Haynes, *The End of Early Music*, 49.

³⁸ Fabian, *A Musicology of Performance*, 197.

³⁹ *Ibid.*, 52.

⁴⁰ *Ibid.*, 56.